

5/20

DART AEROSPACE LTD	Work Order:	22534
Description: Aft Crosstube	Part Number:	D2890
Drawing: D2890 Rev. B; D6008 Rev. A	Qty:	14
		Page 1 of 2

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveller Dwg. not required RF 02.11.05	DA	05.02.23	14
2	PG	Issue P/O: 7007638 a) Extrude as per Dwg D6008 length = 180" (Ref. D6008-180) b) Material: 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11)) Seamless aluminum tube c) Minimum ultimate tensile strength = 77ksi d) Minimum tensile yield strength = 66ksi e) Material certification required	u	05.03.01	14
3	RG	Receive and inspect for transit damage Ensure material certification attached	CD	05/06/10	16
4	QC6	Inspect dimensions as per Dwg D6008 and check 180" length			
5	FP	Acid etch and alodine as per QSI 005 4.1 Inside and outside of tube	mc	05.7.25	16
6	LG	Bend as per Dwg D2890 and Folio FT002 Sign Page 2			
7	QC6	Inspect dimensions per Dwg D2890 Sign Page 2			
8	LG	Deburr and Polish Sign Page 2			
9	FP	Acid etch and alodine as per QSI 005 4.1 Inside and outside of tube Sign Page 2	u		
10	QC5	Inspect work to Step 9 Sign Page 2			
11	ST	Identify and stock	LV	05.07.01	16
12	AC	Cost / part:	u	06.11.20	
13	DC	Close W/O Inspect Level 21	LD	06/11/30	16

Rev	Date	Change	Revised By	Approved
A	99.05.31	New Issue, ECN 200	DM	
B	00.04.11	Remove painting step	EC	
C	02.10.18	Re-format; Added spec	KJ RF	JA

RELEASED
02/10/30 RF

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☐ No ☒ DQA: ☒ Date: 8/6/11/30

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

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W/O Step	A	B	C	D	E	F	G	H	I	J	K	L
6												
7												
8												
9												
10												

RELEASED
02/10/30 RF

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Feb 23, 2005
08:08 am

Work Order No : 0022534
Project Name : D2890
Project For : WK520
Work Order Type : Main
Main WO Number :
House Part Number : D2890
Description : Aft Crosstube
Manufactured : Yes
Amount Req'd : 14
Amount Done : 0
Start Date : 02-23-05
Est Finish Date : 04-28-05
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00
Order Entry No :
OE Value : 0.00
Est Margin : 0.000%
Actual Margin : 0.000%
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Margin :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00

**ALUnna****Abnahmeprüfzeugnis 3.1 - EN 10204:2004****Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1 - EN 10204:2004****Kunde:** Dart Aerospace Ltd.
Client:1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada**Zeugnisnummer:** 296/05**Cert No. / No. du certificat:****Bestellnummer:** 2007638**Order No. / No. de commande****Auftrag:** 13285/2**Our Reference/Notre Reference:****Produkt:** Tubes seamless extruded**Product / Produit:****Spezifikation:** AMS - QQA 200/11E; Tol. acc to ASTM B 210**Specification:****Werkstoff:** 7075**Alloy/Alliage:****Zustand:** T 6511**Temper/Etat****Abmessung:** 3,250 INCH x 2,374 INCH x 0,438 INCH x 180,000 INCH**Size / Dimension**

Article D6008-180 3.250" x 0.438" - buff finish

Kennzeichnung: ALUnna - Cert No. 296/05 - 7075 - T 6511 - Cast No. 79306 - QQA 200/11E - 3.250" OD X 0.438" Wall - Heat No.**Marking/Marquage:** 3531 - Lot 13285/2-1 PO: 2007638**Lieferung****Delivered Material / Matériel délivré:**

pcs.

lbs

16

1142

1. Chemische Analyse**Chemical Analysis / analyse chimique**

Charge/ Cast No.	min. max.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
				1,2		2,1	0,18	5,1						
		0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
79306		0,108	0,179	1,44	0,032	2,47	0,190	5,94	0,035	0,005	0,029	0,001	0,001	0,007

Elements without indication < 0,01 %

2. Mechanische Eigenschaften**Mechanical Properties / Valeurs Mécaniques**

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	
min. max.	77,0	66,0				
1	86,565	79,750	9,0		150	3531 - 16 pcs.
2	86,420	79,605	8,0		153	

**Ergebnis der
Prüfungen:**

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

KroosD

10.05.2005

Certified acc. to DIN EN ISO 9001:2000, valid until 2006-03-09
Certificate No.: 001959 QM**ALUnna**

Abnahmebeauftragter

Customer PO	PO. 2007638
ALUnna ref. no.	13285/2
Date:	06.21.05

Dart Aerospace P.O. 2007638 D 6005-180
Made in Germany
Dest. Hawkesbury ONT. Canada

free from live plant pests

free from live plant pests										Boxdimension		
Item no.	Box no.	OD (inch)	ID (inch)	Wall (inch)	Net Weight (lbs)	Tare lbs	Gross Weight	Pieces	lengths (ft)	Lengths (inch)	Width (inch)	height (inch)
2	1	3,250	2,374	0,438	1142	359	1501	16	15	188,189	21,654	24,409